

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)**Search Results -**

Terms	Documents
L2 AND 11237980	1

**Database:**

US Patents Full-Text Database  
 US Pre-Grant Publication Full-Text Database  
 JPO Abstracts Database  
 EPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

**Refine Search:**

L2 AND 11237980

**Clear****Search History****Today's Date: 6/17/2001**

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
DWPI	L2 AND 11237980	1	<u>L3</u>
DWPI	HITACHI AND GENERATING ADJ APPARATUS (5956479 6067641 5287537 5790862 5325533 5216613 6071317 5701400 5699310 5680615 5854932 5911144 5684994 5892900 5949876 5910987 5915019 5982891 5917912 5546577 5758074 5778377 5586323 5384697 5444851 5598566 5522044 5550980 5884072 5511188 6115713 5463735 5206940 5222241 5045993 5237667 5247627 5659727 5664181 5721895 5970494 5632031 5778223 5687365 5508733 5872973 5815400 5708761 5845125 5860008).dwku.	40	<u>L2</u>
USPT		50	<u>L1</u>

**WEST****Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: JP 11237980 A

L3: Entry 1 of 1

File: DWPI

Aug 31, 1999

DERWENT-ACC-NO: 1999-546314

DERWENT-WEEK: 199946

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TITLE: Code generating apparatus - has code generator which produces code based on program information generated by object-oriented function exclusion unit which eliminates unnecessary function among object-oriented functions

Full	Title	CIT.1	REV.1	CLS.1	REF.1	DRAW.1	CLIP.1
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Terms	Documents
L2 AND 11237980	1

Documents, starting with Document:

**Display Format:** 

Not released to be  
early enough  
7/4  
6/17/01

PURPOSE: To provide a strongly-typed **\*\*object\*\*\*oriented\*\*** programming language -

... compiled by a compiler 100 inside a computer system 10, an object 131, an execution **\*\*code\*\*** 133 and a type inspection program 135 are generated and the object 131, on program...

5/3,K/12 (Item 1 from file : 351)  
DIALOG(R)File 351:DERWENT WPI  
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012740197 **\*\*Image available\*\***  
WPI Acc No: 99-546314/199946  
XRPX Acc No: N99-405476

**\*\*Code\*\*** generating apparatus - has **\*\*code\*\*** generator which produces  
**\*\*code\*\*** based on program information generated by **\*\*object\*\***-  
**\*\*oriented\*\*** function exclusion unit which eliminates unnecessary  
function among **\*\*object\*\*\*oriented\*\*** functions

Patent Assignee: **\*\*HITACHI\*\*** LTD (HITA  
Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat	No	Kind	Date	Main IPC	Week
JP 11237980	A	19990831	JP 9838329	A	19980220	G06F-009/06	199946	B

Priority Applications (No Type Date): JP 9838329 A 1998/02/20  
Language, Pages: JP 11237980 (11)

**\*\*Code\*\*** generating apparatus...

...has **\*\*code\*\*** generator which produces **\*\*code\*\*** based on program  
information generated by **\*\*object\*\*\*oriented\*\*** function exclusion unit  
which eliminates unnecessary function among **\*\*object\*\*\*oriented\*\***  
functions

Patent Assignee: **\*\*HITACHI\*\*** LTD...

...Abstract (Basic): NOVELTY - A **\*\*code\*\*** generator (108) produces a  
**\*\*code\*\*** based on program information generated by an **\*\*object\*\***-  
**\*\*oriented\*\*** function exclusion unit (107). The **\*\*object\*\*\*oriented\*\***  
function exclusion unit eliminates unnecessary function among  
**\*\*object\*\*\*oriented\*\*** functions according to a function exclusion  
rule. DETAILED DESCRIPTION - The **\*\*code\*\*** generating apparatus, which  
generates **\*\*code\*\*** from **\*\*object\*\*\*oriented\*\*** specifications, has a  
specification analyzer (106) that analyzes the specifications based on  
the **\*\*object\*\*\*oriented\*\*** input and extracts the specification  
information. An INDEPENDENT CLAIM is included for an **\*\*object\*\***-  
**\*\*oriented\*\*** optimization **\*\*code\*\*** generation method...

...ADVANTAGE - Reduces required memory capacity since unnecessary function  
of **\*\*object\*\*\*oriented\*\*** programming language is eliminated when  
generating **\*\*code\*\*** from **\*\*object\*\*\*oriented\*\*** document. DESCRIPTION  
OF DRAWING(S) - The figure is a diagram showing the entire components  
of the **\*\*code\*\*** generating apparatus. (106) Specification analyzer;  
(107) **\*\*Object\*\*\*oriented\*\*** function exclusion unit; (108) **\*\*Code\*\***  
generator...

Title Terms: **\*\*CODE\*\***;

5/3,K/13 (Item 2 from file: 351)  
DIALOG(R)File 351:DERWENT WPI  
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Karen Lehman EIC 3600 306-5783 13:13 January 3, 2000

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Terms	Documents
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Database: US Patents Full-Text Database  
US Pre-Grant Publication Full-Text Database  
JPO Abstracts Database  
EPO Abstracts Database  
Derwent World Patents Index  
IBM Technical Disclosure Bulletins

Refine Search:

(5956479 6067641 5287537 5790862 5325533 5216613 6071317 5701400 5699310 5680615 5854932 5911144 5684994 5892900 5949876

[Clear](#)**Search History**

Today's Date: 6/17/2001

**DB Name****Query****Hit Count Set Name**

USPT (5956479 6067641 5287537 5790862 5325533 5216613 6071317 5701400 5699310 5680615 5854932 5911144 5684994 5892900 5949876 5910987 5915019 5982891 5917912 5546577 5758074 5778377 5586323 5384697 5444851 5598566 5522044 5550980 5884072 5511188 6115713 5463735 5206940 5222241 5045993 5237667 5247627 5659727 5664181 5721895 5970494 5632031 5778223 5687365 5508733 5872973 5815400 5708761 5845125 5860008).dwku.

50

L1

**WEST**

Generate Collection

Search Results - Record(s) 1 through 50 of 50 returned.

☐ 1. Document ID: US 6115713 A

L1: Entry 1 of 50

File: USPT

Sep 5, 2000

US-PAT-NO: 6115713

DOCUMENT-IDENTIFIER: US 6115713 A

TITLE: Networked facilities management system

DATE-ISSUED: September 5, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 707/10; 709/201, 709/238, 714/1, 714/37

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices.

12 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 6071317 A

L1: Entry 2 of 50

File: USPT

Jun 6, 2000

US-PAT-NO: 6071317

DOCUMENT-IDENTIFIER: US 6071317 A

TITLE: Object code logic analysis and automated modification system and method

DATE-ISSUED: June 6, 2000

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Nagel; Robert H.

New York

NY

N/A

N/A

US-CL-CURRENT: 717/4; 717/1, 717/10, 717/11, 717/2, 717/3, 717/5, 717/6, 717/7,  
717/8, 717/9

ABSTRACT:

A method and system for modifying computer program logic with respect to a predetermined aspect, comprising (a) before run time: analyzing compiled computer program logic of a module for processes involving the predetermined aspect before run time, substantially without decompilation or reference to computer program source code; and storing a set of modifications relating to computer program logic modifications of the module relating to the predetermined aspect; and (b) at run time: based on the stored set of modifications, selectively transferring program control from the module to a separate logical structure, executing modified logical operations with respect to the predetermined aspect, and subsequently returning program control to the module. The predetermined aspect may be, for example, a data type, algorithm type, or interface

specification. In a preferred embodiment, the predetermined aspect is date related data, and more particularly, to logical operations relating to date related data which are flawed. The system preferably operates in a mainframe environment, wherein the compiled computer program constitutes one or more load modules, executing under an operating system, wherein the computer program logic modifications preferably comprise program flow control diversions in an original object module, which selectively transfer logical control to a separate object module to effect modifications to the computer program logic, followed by a return of control to the original object module.

31 Claims, 1 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 3. Document ID: US 6067641 A

L1: Entry 3 of 50

File: USPT

May 23, 2000

US-PAT-NO: 6067641

DOCUMENT-IDENTIFIER: US 6067641 A

TITLE: Demand-based generation of symbolic information

DATE-ISSUED: May 23, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McInerney; Peter J.	Cupertino	CA	N/A	N/A
You; Lawrence L.	San Jose	CA	N/A	N/A
Wimble; Michael D.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 714/38; 712/227

## ABSTRACT:

A human-oriented object programming system (HOOPS) and its debugger provide an interactive and dynamic modeling system to assist in the incremental generation of symbolic information of computer programs that facilitates the development of complex computer programs such as operating systems and large applications with graphic user interfaces (GUIs). A program is modeled as a collection of units called components. A component represents a single compilable language element such as a class or a function. One major functionality built in HOOPS is the debugger, using symbolic properties. The database stores the components and properties. The debugger, using a GUI, displays to the user the execution state of the program. To display the execution state in terms of the programmer's source code, the debugger demands retrieval and/or generation of the symbolic properties of the program. The compiler, which is responsible for calculating the dependencies associated with a component, uses those dependencies to generate the information stored in symbolic properties. The debugger matches versions of source and object code and retrieves source code configuration as needed. Symbolic properties that are stored in the database can be removed to reduce database and disk memory usage; they can be later reconstructed using the same method of demand-based generation of symbolic information.

8 Claims, 43 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 40

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 4. Document ID: US 5982891 A

L1: Entry 4 of 50

File: USPT

Nov 9, 1999

US-PAT-NO: 5982891  
DOCUMENT-IDENTIFIER: US 5982891 A

TITLE: Systems and methods for secure transaction management and electronic rights protection

DATE-ISSUED: November 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 705/54; 705/26, 713/167

ABSTRACT:

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

102 Claims, 153 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 5. Document ID: US 5970494 A

L1: Entry 5 of 50

File: USPT

Oct 19, 1999



US-PAT-NO: 5970494  
DOCUMENT-IDENTIFIER: US 5970494 A

TITLE: Computer program product and program storage device for a data transmission dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/102; 707/104

ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendent nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

4 Claims, 37 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 6. Document ID: US 5956479 A

L1: Entry 6 of 50

File: USPT

Sep 21, 1999

US-PAT-NO: 5956479

DOCUMENT-IDENTIFIER: US 5956479 A

TITLE: Demand based generation of symbolic information

DATE-ISSUED: September 21, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McInerney; Peter J.	Cupertino	CA	N/A	N/A
You; Lawrence L.	San Jose	CA	N/A	N/A
Wimble; Michael D.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 714/38; 707/532, 717/1

## ABSTRACT:

A human oriented object programming system (HOOPS) and its debugger provide an interactive and dynamic modeling system to assist in the incremental generation of symbolic information of computer programs which facilitates the development of complex computer programs such as operating systems and large applications with graphic user interfaces (GUIs). A program is modeled as a collection of units called components. A component represents a single compilable language element such as a class or a function. One major functionality built on HOOPS is the debugger, using symbolic properties. The database stores the components and properties. The debugger, using a GUI, displays to the user the execution state of the program. To display the execution state in terms of the programmer's source code, the debugger demands retrieval and/or generation of the symbolic properties of the program. The compiler, which is responsible for calculating the dependencies associated with a component, uses those dependencies to generate the information stored in symbolic properties. The debugger matches versions of source and object code and retrieves source code configuration as needed. Symbolic properties that are stored in the database can be removed to reduce database and disk memory usage; they can be later reconstructed using the same method of demand-based generation of symbolic information.

24 Claims, 43 Drawing figures Exemplary Claim Number: 9  
Number of Drawing Sheets: 40

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KNOC	Draw Desc	Image
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☐ 7. Document ID: US 5949876 A

L1: Entry 7 of 50

File: USPT

Sep 7, 1999

US-PAT-NO: 5949876

DOCUMENT-IDENTIFIER: US 5949876 A

TITLE: Systems and methods for secure transaction management and electronic rights protection

DATE-ISSUED: September 7, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 705/80; 705/1, 705/39, 705/54

## ABSTRACT:

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

375 Claims, 155 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 8. Document ID: US 5917912 A

L1: Entry 8 of 50

File: USPT

Jun 29, 1999

US-PAT-NO: 5917912  
DOCUMENT-IDENTIFIER: US 5917912 A

TITLE: System and methods for secure transaction management and electronic rights protection

DATE-ISSUED: June 29, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 713/187; 705/40, 709/312, 713/164

ABSTRACT:

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

58 Claims, 153 Drawing figures Exemplary Claim Number: 58  
Number of Drawing Sheets: 146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 9. Document ID: US 5915019 A

L1: Entry 9 of 50

File: USPT

Jun 22, 1999

US-PAT-NO: 5915019

DOCUMENT-IDENTIFIER: US 5915019 A

TITLE: Systems and methods for secure transaction management and electronic rights protection

DATE-ISSUED: June 22, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 705/54; 705/26, 705/400, 713/200

## ABSTRACT:

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

101 Claims, 155 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	Keyword	Draw Desc	Image
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☐ 10. Document ID: US 5911144 A

L1: Entry 10 of 50

File: USPT

Jun 8, 1999

US-PAT-NO: 5911144

DOCUMENT-IDENTIFIER: US 5911144 A

TITLE: Method and apparatus for optimizing the assignment of hash values to nodes residing in a garbage collected heap

DATE-ISSUED: June 8, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schwartz; David C.	San Jose	CA	N/A	N/A
Ungar; David M.	Palo Alto	CA	N/A	N/A

US-CL-CURRENT: 707/206

## ABSTRACT:

Apparatus, methods, systems, and computer program products are disclosed that generate a hash value for a node allocated from a generational garbage collected heap. The heap is associated with a global hash offset that is updated on every scavenge operation. This global hash offset is added to the address of the node to generate a hash offset. The hash offset is only generated upon a generate hash condition. The generate hash condition occurs when the hash value for the node is accessed or when the node is copied from the creation area. Thus, the invention generates hash values for nodes that require them while in the creation area of the heap. When the active nodes are copied from the creation area of the heap the hash value is generated as part of the copy process without additional memory accesses.

20 Claims, 32 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 29

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	Keyword	Draw Desc	Image
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☐ 11. Document ID: US 5910987 A

L1: Entry 11 of 50

File: USPT

Jun 8, 1999

US-PAT-NO: 5910987

DOCUMENT-IDENTIFIER: US 5910987 A

TITLE: Systems and methods for secure transaction management and electronic rights protection

DATE-ISSUED: June 8, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 705/52; 705/30

## ABSTRACT:

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

2 Claims, 155 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 12. Document ID: US 5892900 A

L1: Entry 12 of 50

File: USPT

Apr 6, 1999

US-PAT-NO: 5892900

DOCUMENT-IDENTIFIER: US 5892900 A

TITLE: Systems and methods for secure transaction management and electronic rights protection

DATE-ISSUED: April 6, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ginter; Karl L.	Beltsville	MD	N/A	N/A
Shear; Victor H.	Bethesda	MD	N/A	N/A
Sibert; W. Olin	Lexington	MA	N/A	N/A
Spahn; Francis J.	El Cerrito	CA	N/A	N/A
Van Wie; David M.	Sunnyvale	CA	N/A	N/A

US-CL-CURRENT: 713/200; 713/201

## ABSTRACT:

The present invention provides systems and methods for electronic commerce including secure transaction management and electronic rights protection. Electronic appliances such as computers employed in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Secure subsystems used with such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Secure distributed and other operating system environments and architectures, employing, for example, secure semiconductor processing arrangements that may establish secure, protected environments at each node. These techniques may be used to support an end-to-end electronic information distribution capability that may be used, for example, utilizing the "electronic highway."

220 Claims, 177 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 163

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 13. Document ID: US 5884072 A

L1: Entry 13 of 50

File: USPT

Mar 16, 1999



US-PAT-NO: 5884072

DOCUMENT-IDENTIFIER: US 5884072 A

TITLE: Networked facilities management system with updated data based on aging time

DATE-ISSUED: March 16, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rasmussen; David E.	Wales	WI	N/A	N/A

US-CL-CURRENT: 709/223; 700/2, 700/3, 709/224

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processsing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. Data is stored with an aging time such that during a time period when a data item is valid, requests for that particular data item are serviced with the stored data. A request for the particular data item which occurs after the data item aging time is serviced with a new value of the data which is again valid for the aging time.

13 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 14. Document ID: US 5872973 A

L1: Entry 14 of 50

File: USPT

Feb 16, 1999

US-PAT-NO: 5872973

DOCUMENT-IDENTIFIER: US 5872973 A

TITLE: Method for managing dynamic relations between objects in dynamic object-oriented languages

DATE-ISSUED: February 16, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mitchell; David C.	South Orem	UT	N/A	N/A
Anderson; Kelly L.	Provo	UT	N/A	N/A
Osman; Andrew V.	Provo	UT	N/A	N/A
Mitchell; Dale K.	Provo	UT	N/A	N/A

US-CL-CURRENT: 709/332; 709/317, 709/330, 717/2

## ABSTRACT:

A method and system for creating named relations between classes in a dynamic object-oriented programming environment via mappers is disclosed. The mapping objects dynamically bind to the class interfaces of the classes being related. These connections between classes are defined within a visual environment. The relationships can be programmatically attached by name to object instances during program execution. Because these relationships are stored in a resource and are dynamically bound by name to the objects, they can be created and modified without requiring the source code of the objects being associated to be changed. This eliminates hard coded dependencies between objects that impede reuse of the objects in other contexts. The invention requires and takes full advantage of, meta-data, full dynamic binding and probing support in the objects being connected with the invention.

33 Claims, 4 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	K00C	Draw Desc	Image
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☐ 15. Document ID: US 5860008 A

L1: Entry 15 of 50

File: USPT

Jan 12, 1999

US-PAT-NO: 5860008

DOCUMENT-IDENTIFIER: US 5860008 A

TITLE: Method and apparatus for decompiling a compiled interpretive code

DATE-ISSUED: January 12, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bradley; Shayne P.	Vancouver	WA	N/A	N/A

US-CL-CURRENT: 717/4; 717/5

## ABSTRACT:

A method and apparatus for decompiling a compiled, interpretive code characterized by the steps of creating an array of names and an array of literals from a plurality of compiled, interpretive code bytes and sequentially converting each code byte into a code fragment utilizing the code byte, the array of names, and the array of literals. Each code fragment is added to a code fragment array. Pattern matching is performed on the code fragment array to produce a source language listing describing a high-level functioning of the code bytes that is readily understood by a programmer. The pattern matching includes a linear sequence of matching steps that are ordered such that matching steps of less ambiguity are performed prior to related matching steps of greater ambiguity. The code fragment array is preferably searched for at least one pattern for each known construct used in the source language, and appropriate source language text is added for matched constructs. The process is preferably implemented on a frame-based pen computer system.

18 Claims, 12 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	K00C	Draw Desc	Image
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☐ 16. Document ID: US 5854932 A

L1: Entry 16 of 50

File: USPT

Dec 29, 1998

US-PAT-NO: 5854932

DOCUMENT-IDENTIFIER: US 5854932 A

TITLE: Compiler and method for avoiding unnecessary recompilation

DATE-ISSUED: December 29, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mariani; Rico	Kirkland	WA	N/A	N/A
Spalding; Daniel R.	Redmond	WA	N/A	N/A
Caves; Jonathan E.	Redmond	WA	N/A	N/A
Gray; Jan	Redmond	WA	N/A	N/A
Randell; Scott	Redmond	WA	N/A	N/A

US-CL-CURRENT: 717/9

## ABSTRACT:

A minimal rebuild system and process for minimizing rebuilding of a user's programming project analyzes and records dependencies of object code files compiled in a previous build of the project on classes declared in header files. When rebuilding the project, the system detects and records changes made to the classes and header files since the project was last built. The system then determines whether to recompile the object code files from their respective source code files by comparing the recorded dependencies and changes. If an object code file's dependencies do not intersect the changes, recompiling of the object code file can be omitted. The minimal rebuild system utilizes an approximate representation of the dependencies to yield an efficient system while ensuring that the project is correctly rebuilt.

21 Claims, 7 Drawing figures Exemplary Claim Number: 15  
Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 17. Document ID: US 5845125 A

L1: Entry 17 of 50

File: USPT

Dec 1, 1998

US-PAT-NO: 5845125

DOCUMENT-IDENTIFIER: US 5845125 A

TITLE: Debugger using class information and dynamic instance  
inter-relationships

DATE-ISSUED: December 1, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nishimura; Tomoko	Yokohama	N/A	N/A	JPX
Igarashi; Masato	Yachiyo	N/A	N/A	JPX
Koyama; Noriaki	Fuchu	N/A	N/A	JPX
Ueki; Katsuhiko	Tokyo	N/A	N/A	JPX

US-CL-CURRENT: 717/4

## ABSTRACT:

A debugger which helps a user perform object-based debugging. A class information generation section (8) generates class information based on the source code. The execution section (12) executes the program. The object information generation section (13) generates object information based on class information and execution information. The user sets a breakpoint in a desired object via the breakpoint setting section (16). A breakpoint may be set at a desired location in the object. The break processing section (18) detects a breakpoint and breaks the execution of the program. The reservation section (21) reserves a debug operation with the identifier of an object. When there is an object that can be referenced by the reserved identifier, the reservation execution section (22) executes the operation reserved for the object.

11 Claims, 31 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 29

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	K00C	Draw Desc	Image
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☐ 18. Document ID: US 5815400 A

L1: Entry 18 of 50

File: USPT

Sep 29, 1998

US-PAT-NO: 5815400

DOCUMENT-IDENTIFIER: US 5815400 A

TITLE: Machining method using numerical control apparatus

DATE-ISSUED: September 29, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hirai; Hayao	Aichi	N/A	N/A	JPX
Fujimoto; Akihiko	Aichi	N/A	N/A	JPX

US-CL-CURRENT: 700/173; 700/182, 700/184

## ABSTRACT:

A machining method in which a numerically controlled apparatus carries out a series of operations such as the determination of machining procedures, the selection of a tool, the preparation of a workpiece and inspection programs, machining operation, and inspection, required when a numerically controlled machine tool carries out a machining operation on the basis of input graphics and process information, using at least machine tool information, tool information, cutting condition information, material information, machining method symbol information, finishing symbol information, finishing allowance information, surface treatment information, information about thermal refining, and cost information, the method includes the steps of, while using electronic calculators including a numerical control unit, an FA system, and a personal computer, and a series of data processing units and machine tools, registering a variety of information files; inputting machining pattern data; processing a finished pattern; processing a machining pattern before a workpiece has finished undergoing another process; identifying the pattern; making a decision with regard to a machining process; and deciding whether or not material should be measured.

19 Claims, 180 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 170

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 19. Document ID: US 5790862 A

L1: Entry 19 of 50

File: USPT

Aug 4, 1998

US-PAT-NO: 5790862  
DOCUMENT-IDENTIFIER: US 5790862 A

TITLE: Resource assigning apparatus which assigns the variable in a program to resources

DATE-ISSUED: August 4, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tanaka; Akira	Kyoto	N/A	N/A	JPX
Sayama; Junko	Settsu	N/A	N/A	JPX
Yukawa; Hiroshi	Kyoto	N/A	N/A	JPX
Odani; Kensuke	Kyoto	N/A	N/A	JPX

US-CL-CURRENT: 717/5; 709/104, 717/9

ABSTRACT:

A resource assigning apparatus which generates assignments which are combinations of variables and their respective live ranges, which investigates, for each assignment, other assignments with live ranges which interfere or which are continuous and which calculates assigning priority levels. Next, the assigning resource element determination unit assigns each assignment to an assignable resource element starting with the assignment with the highest priority level, in doing so taking into account the use cost which is the cost incurred by the parts of the program which use an assignment and the resource succession relations, thereby calculating a profit value which standardizes an evaluation of a reduction in transfer instructions in the object code and assigning assignments to resource elements with a lowest use cost and highest profit value. In this way, by thoroughly investigating the relations between assignments which allow assigning to a same resource element, a more optimal assigning result is attained.

51 Claims, 57 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 34

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 20. Document ID: US 5778377 A

L1: Entry 20 of 50

File: USPT

Jul 7, 1998

US-PAT-NO: 5778377

DOCUMENT-IDENTIFIER: US 5778377 A

TITLE: Table driven graphical user interface

DATE-ISSUED: July 7, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marlin; James Warden	Longmont	CO	N/A	N/A
Knudson; Raymond Lowell	Boulder	CO	N/A	N/A
Ruehle; Thomas Michael	Boulder	CO	N/A	N/A
Stuart; Anthony Franke	Jamestown	CO	N/A	N/A
Hughes, III; Edward Thomas	Arvada	CO	N/A	N/A

US-CL-CURRENT: 707/103; 101/483, 370/254, 370/335, 707/10, 707/102, 707/4

## ABSTRACT:

A Graphical User Interface (GUI) is provided for workstations on a network in which a complex operation is controlled. At least one node on the network has a Desktop Management Interface (DMI) with an object oriented database for storing data objects for the complex operation. Objects are organized according to the DMI into components, groups and attributes. The GUI is generic to any complex operation but requires the DMI for access to data. The GUI enables the user to manage information in the database in whatever manner the user has interest through the provision of report definitions through which specific component, group, and attribute data are obtained in accordance with row and column definitions for table display. The DMI interface is probed with appropriate commands generated by the GUI to obtain and display the requested data. Provision is made for displaying data in chart format and a chain feature is provided to move from one report to another. Various other features are provided.

16 Claims, 15 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 21. Document ID: US 5778223 A

L1: Entry 21 of 50

File: USPT

Jul 7, 1998



US-PAT-NO: 5778223

DOCUMENT-IDENTIFIER: US 5778223 A

TITLE: Dictionary for encoding and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: July 7, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/100; 345/343

## ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendant nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

40 Claims, 38 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Image
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☐ 22. Document ID: US 5758074 A

L1: Entry 22 of 50

File: USPT

May 26, 1998

US-PAT-NO: 5758074  
DOCUMENT-IDENTIFIER: US 5758074 A

TITLE: System for extending the desktop management interface at one node to a network by using pseudo management interface, pseudo component interface and network server interface

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marlin; James Warden	Longmont	CO	N/A	N/A
Knudson; Raymond Lowell	Boulder	CO	N/A	N/A
Ruehle; Thomas Michael	Boulder	CO	N/A	N/A
Stuart; Anthony Franke	Jamestown	CO	N/A	N/A
Hughes, III; Edward Thomas	Arvada	CO	N/A	N/A

US-CL-CURRENT: 709/250; 345/333

ABSTRACT:

A system for enabling the use of the Desktop Management Interface (DMI) in a network where the particular computing system containing the DMI and its database reside on one node and where management applications and devices (instrumented components) reside at other nodes. A client interface is established at each of the required client platforms by supporting all of the functions of the management interface (MI) and/or component interface (CI) at the platforms. In that manner, the management application can address the client management interface at its own node as though it were on the DMI node. The client MI issues a "Remote Procedure Call" (RPC) using network protocol to address the DMI node. A server agent at the DMI node receives the call and acts as a proxy management application to address the DMI and its database. Similarly, instrumented components can address the client component interface at its own node as though it were on the DMI node. The client CI issues an RPC to address the DMI node. A server agent at the DMI node receives the call and acts as a proxy component to address the DMI and its database. In that manner, the semantics and syntax of the DMI is preserved while enabling three-way dialogues between clients, servers and instrumented components all residing on different nodes which may have a variety of operating systems, hardware platforms and architectures.

17 Claims, 15 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 23. Document ID: US 5721895 A

L1: Entry 23 of 50

File: USPT

Feb 24, 1998

US-PAT-NO: 5721895

DOCUMENT-IDENTIFIER: US 5721895 A

TITLE: Computer program product and program storage device for a data transmission dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: February 24, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/104; 709/227, 709/230

## ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendent nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

4 Claims, 37 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 24. Document ID: US 5708761 A

L1: Entry 24 of 50

File: USPT

Jan 13, 1998

US-PAT-NO: 5708761

DOCUMENT-IDENTIFIER: US 5708761 A

TITLE: Fuzzy development-support device

DATE-ISSUED: January 13, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nitta; Yasuhiko	Hyogo	N/A	N/A	JPX
Sakashita; Narumi	Hyogo	N/A	N/A	JPX
Shimomura; Kenichi	Hyogo	N/A	N/A	JPX
Komori; Shinji	Hyogo	N/A	N/A	JPX

US-CL-CURRENT: 706/60; 178/25, 347/41, 706/52, 706/900

## ABSTRACT:

A fuzzy development-support device includes a data input unit, a fuzzy-inference execution unit and a result verification unit. As an example, the data input unit includes a display unit connected to a membership function generator and a grid pitch designation unit for designating a grid pitch on a grid sheet displayed on the display unit for creation of membership functions. The grid pitch designation unit allows variation of grid pitch on the grid sheet. Thus, an operator uses the grid pitch designation unit to achieve an effective input of membership functions by generating the grid sheet with a pitch adequate for a desired shape of membership function.

17 Claims, 88 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 59

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 25. Document ID: US 5701400 A

L1: Entry 25 of 50

File: USPT

Dec 23, 1997

US-PAT-NO: 5701400

DOCUMENT-IDENTIFIER: US 5701400 A

TITLE: Method and apparatus for applying if-then-else rules to data sets in a relational data base and generating from the results of application of said rules a database of diagnostics linked to said data sets to aid executive analysis of financial data

DATE-ISSUED: December 23, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Amado; Carlos Armando	Miami	FL	33131-2400	N/A

US-CL-CURRENT: 706/45; 706/47, 706/60

## ABSTRACT:

A system for applying artificial intelligence technology to data stored in databases and generates diagnostics that are user definable interpretations of information in the database. The diagnostics are stored in a database which can be queried with downdrilling to the associated data which generated the diagnostic. A set of bidirectional links is maintained between selected data items in the first database and the corresponding diagnostics in the second database. The system acts as an information compiler in developing a map of the raw data dimension into the structured dimension of intelligent interpretation of the data in the diagnostic database.

12 Claims, 137 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 59

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 26. Document ID: US 5699310 A

L1: Entry 26 of 50

File: USPT

Dec 16, 1997

US-PAT-NO: 5699310

DOCUMENT-IDENTIFIER: US 5699310 A

TITLE: Method and apparatus for a fully inherited object-oriented computer system for generating source code from user-entered specifications

DATE-ISSUED: December 16, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Garloff; Gary W.	Kingwood	TX	N/A	N/A
McKee; Kevin S.	Kingwood	TX	N/A	N/A
Coats; S. Mark	Houston	TX	N/A	N/A
Poock; Ted C.	Kingwood	TX	N/A	N/A

US-CL-CURRENT: 717/1

## ABSTRACT:

A computer system wherein object-oriented management techniques are used with a new means for generating code to provide for the automatic generation of source code. The invention includes three executable components: an inheritance engine that provides a detailed, fully inherited view of individual objects; an Operator Interface that allows a software Developer to provide a program specification; and a generator for generating source code for a computer system. The inheritance engine obtains objects from Design Knowledge Bases, Specification Knowledge Bases and Generation Knowledge Bases for the Generator. The Generator then operates on the objects to produce source code.

69 Claims, 32 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 29

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 27. Document ID: US 5687365 A

L1: Entry 27 of 50

File: USPT

Nov 11, 1997

US-PAT-NO: 5687365

DOCUMENT-IDENTIFIER: US 5687365 A

TITLE: System and method for creating a data dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: November 11, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/102

## ABSTRACT:

A method of creating a data transmission dictionary by deriving a group of one or more computer searchable definition trees from a first definition group of nodes defining portions of commands, replies, or data usable by a computer system, compacting each of the nodes by retaining only information necessary for the processing of data transmission streams according to the definition trees; assembling each definition tree by sequencing the compacted nodes in a linear form, starting with the root node of each of the definition trees, by placing information included in each compacted node in a resulting implemented dictionary; and by assembling each child node in the resulting implemented dictionary and assembling each of the child's child nodes in turn. The process of assembling a terminal node involves placing information included in the terminal node in the resulting implemented dictionary.

18 Claims, 37 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 28. Document ID: US 5684994 A

L1: Entry 28 of 50

File: USPT

Nov 4, 1997

US-PAT-NO: 5684994  
DOCUMENT-IDENTIFIER: US 5684994 A

TITLE: Resource assignment apparatus

DATE-ISSUED: November 4, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tanaka; Akira	Kyoto	N/A	N/A	JPX
Irimajiri; Junko	Hirakata	N/A	N/A	JPX
Tominaga; Nobuki	Kyoto	N/A	N/A	JPX

US-CL-CURRENT: 717/5; 709/104

ABSTRACT:

A resource assignment apparatus for use with a software compiler or translator for compiling or translating a high-level source program into a machine language program, wherein the resource assignment apparatus assigns the variables in the high-level source program to system resources consisting of registers, memory, and the like. The resource assignment apparatus generates assignments consisting of the variables and their live ranges and finds the interference cost incurred when assigning these various assignments to each of the various resources, consisting of data registers, address registers, memory, and the like. The apparatus sorts the assignments into groups whereby these interference costs will be the lowest. The resource element minority assignment unit then carries out the assigning of each of these groups of sorted assignment. The various assignments with live ranges which interfere are assigned to different resource elements. When there are a number of resource elements to which an assignment can be assigned, the apparatus determines which is the most appropriate resource element, and assigns the assignment to this most appropriate resource element. When there is no resource element for which assigning is possible, the assignment is then moved to another resource group.

58 Claims, 40 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 29. Document ID: US 5680615 A

L1: Entry 29 of 50

File: USPT

Oct 21, 1997



US-PAT-NO: 5680615

DOCUMENT-IDENTIFIER: US 5680615 A

TITLE: Desktop management of host applications

DATE-ISSUED: October 21, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marlin; James Warden	Longmont	CO	N/A	N/A
Knudson; Raymond Lowell	Boulder	CO	N/A	N/A
Ruehle; Thomas Michael	Boulder	CO	N/A	N/A
Stuart; Anthony Franke	Jamestown	CO	N/A	N/A
Hughes, III; Edward Thomas	Arvada	CO	N/A	N/A

US-CL-CURRENT: 707/103; 707/1, 707/10, 707/104, 707/203, 707/524

## ABSTRACT:

A communication medium and method enabling the identification of manageable data produced on mainframe equipment, so that the data can be established in a Desktop Management Interface (DMI) database. In that manner, management applications residing on desktop equipment connected to the DMI nodes can manage a complex process which includes mainframe equipment. The medium is a "tag" comprising a structured field which is sent from the mainframe to a desktop machine containing a server agent for generating DMI commands from the tag to address the database. In one embodiment, an exit agent is provided to split tags out of a mainframe generated datastream and send them to the server agent. The technique is extended to include desktop nodes so that tags can be produced and sent to the server agent for the generation of DMI commands.

12 Claims, 17 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 30. Document ID: US 5664181 A

L1: Entry 30 of 50

File: USPT

Sep 2, 1997

US-PAT-NO: 5664181

DOCUMENT-IDENTIFIER: US 5664181 A

TITLE: Computer program product and program storage device for a data transmission dictionary for encoding, storing, and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: September 2, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/102

## ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendent nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

15 Claims, 38 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	WWW	Draw Desc	Image
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☐ 31. Document ID: US 5659727 A

L1: Entry 31 of 50

File: USPT

Aug 19, 1997

US-PAT-NO: 5659727

DOCUMENT-IDENTIFIER: US 5659727 A

TITLE: Computer program product and program storage device for encoding, storing, and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: August 19, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/2; 707/9

## ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendent nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

26 Claims, 38 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 32. Document ID: US 5632031 A

L1: Entry 32 of 50

File: USPT

May 20, 1997

US-PAT-NO: 5632031

DOCUMENT-IDENTIFIER: US 5632031 A

TITLE: Method and means for encoding storing and retrieving hierarchical data processing information for a computer system

DATE-ISSUED: May 20, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Velissaropoulos; T. Dora	Toronto	N/A	N/A	CAX
Shum; Peter K.	Richmond Hill	N/A	N/A	CAX

US-CL-CURRENT: 707/104

## ABSTRACT:

A data transmission dictionary is provided, which is adapted for use by a computer system for encoding, storing, or retrieving hierarchically related data transmission information. The dictionary is comprised of a group of one or more computer searchable definition trees relating to transmission information of the computer system. The trees are derived from a first definition group which includes characteristics of commands, replies or data usable by the computer system. The characteristics include structure and value properties and restrictions, if any, applying to the commands, replies or data. Each tree represents, respectively, a definition of a the command, reply or data to which it relates. Each tree includes a root node identified by name, e.g., a codepoint. The root node includes information describing the type of definition tree concerned (i.e., whether it relates to a command, reply or data), and may include one or more internal or terminal descendant nodes. These nodes represent components of the definition represented by the tree. The descendent nodes include level information describing the level of the node within its tree. The nodes may include attribute information, and may include value requirements relating to transmission information represented by the nodes.

15 Claims, 38 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	K00C	Draw Desc	Image
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☐ 33. Document ID: US 5598566 A

L1: Entry 33 of 50

File: USPT

Jan 28, 1997

US-PAT-NO: 5598566  
DOCUMENT-IDENTIFIER: US 5598566 A

TITLE: Networked facilities management system having a node configured with distributed load management software to manipulate loads controlled by other nodes

DATE-ISSUED: January 28, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 713/324; 713/300

ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. Nodes store restoration characteristics of loads controlled by the nodes. After being shed to limit energy consumption, software local to the node restores the loads under predefined circumstances independently of the load shed commands to achieve distributed load management.

21 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 34. Document ID: US 5586323 A

L1: Entry 34 of 50

File: USPT

Dec 17, 1996

US-PAT-NO: 5586323

DOCUMENT-IDENTIFIER: US 5586323 A

TITLE: Compiler system using an intermediate abstract form and machine-specific installers

DATE-ISSUED: December 17, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koizumi; Shinobu	Sagamihara	N/A	N/A	JPX
Kyushima; Ichiro	Yokohama	N/A	N/A	JPX
Watanabe; Tan	Yokohama	N/A	N/A	JPX
Kohno; Toshiaki	Machida	N/A	N/A	JPX
Domen; Singi	Fujisawa	N/A	N/A	JPX

US-CL-CURRENT: 717/5

## ABSTRACT:

A translator system for translating source programs into machine language programs in an electronic computer system. An object program common to a plurality of different machine types of computers are generated while implementing execution performance equivalent to object programs inherent to the computers. A compiler translates a source program into an abstract object program including an abstract machine instruction sequence and indication concerning allocation of abstract registers. An installer converts the abstract object program into a machine language program of target computer on the basis of executable computer specification information including register usage indication and machine instruction selecting rules.

22 Claims, 54 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 44

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 35. Document ID: US 5550980 A

L1: Entry 35 of 50

File: USPT

Aug 27, 1996

US-PAT-NO: 5550980  
DOCUMENT-IDENTIFIER: US 5550980 A

TITLE: Networked facilities management system with optical coupling of local network devices

DATE-ISSUED: August 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 359/111; 709/223

ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. An optical isolator is connected between signal line outputs from a node and a line driver connected to a pair of lines on a bus. Similarly, an optical isolator is connected between signal line receiving inputs and a line receiver. The signal lines can be biased to predetermined levels to reduce node sensitivity to noise.

20 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RWC	Draw Desc	Image
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☐ 36. Document ID: US 5546577 A

L1: Entry 36 of 50

File: USPT

Aug 13, 1996

US-PAT-NO: 5546577

DOCUMENT-IDENTIFIER: US 5546577 A

TITLE: Utilizing instrumented components to obtain data in a desktop management interface system

DATE-ISSUED: August 13, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marlin; James W.	Longmont	CO	N/A	N/A
Knudson; Raymond L.	Boulder	CO	N/A	N/A
Ruehle; Thomas M.	Boulder	CO	N/A	N/A
Stuart; Anthony F.	Jamestown	CO	N/A	N/A
Hughes, III; Edward T.	Arvada	CO	N/A	N/A

US-CL-CURRENT: 707/103; 706/903

## ABSTRACT:

Instrumentation logic is provided to map object oriented protocols to efficient data management protocols to provide direct, keyed access to multiple data entries. An object oriented database is utilized to model a complex process since it is easily extended to include tables of transactions for each of the many process steps in a complex operation. The database is accessed through the Desktop Management Interface (DMI) with individual DMI commands issued to get or set each individual entry. An application requiring access to many entries would require detailed knowledge of the database and would need to generate many DMI commands. For such an application, instrumentation logic is provided and is accessed by the application through a normal DMI command. The instrumentation then generates all of the successive DMI commands needed to access multiple entries. The invention is extended by utilizing an additional database management system such as DB2 which provide efficient query/response access to large databases. In such case, the invoked instrumentation logic issues a query to obtain the requested data. In both cases, the instrumentation returns the data utilizing the normal DMI interface.

9 Claims, 12 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMIC	Draw Desc	Image
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☐ 37. Document ID: US 5522044 A

L1: Entry 37 of 50

File: USPT

May 28, 1996



US-PAT-NO: 5522044

DOCUMENT-IDENTIFIER: US 5522044 A

TITLE: Networked facilities management system

DATE-ISSUED: May 28, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 709/222; 709/229, 709/243

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. Nodes are provided with ports which may accommodate a non-configured device. When a non-configured device is identified on a port, a drop identifier specifying the port is transmitted to the non-configured device for use in establishing a network address by which the non-configured device can be accessed.

20 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 38. Document ID: US 5511188 A

L1: Entry 38 of 50

File: USPT

Apr 23, 1996

US-PAT-NO: 5511188

DOCUMENT-IDENTIFIER: US 5511188 A

TITLE: Networked facilities management system with time stamp comparison for data base updates

DATE-ISSUED: April 23, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 707/203; 707/104

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. In each node a time stamp indicates the most recent update of the node's data base. Periodically each node transmits its time stamp. When a node receives a time stamp later than its own, the receiving node requests the transmitting node to transmit its data base to update the receiving node with the earlier time stamp.

12 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMOC	Draw Desc	Image
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☐ 39. Document ID: US 5508733 A

L1: Entry 39 of 50

File: USPT

Apr 16, 1996

US-PAT-NO: 5508733

DOCUMENT-IDENTIFIER: US 5508733 A

TITLE: Method and apparatus for selectively receiving and storing a plurality of video signals

DATE-ISSUED: April 16, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kassatly; L. Samuel A.	Palo Alto	CA	94303	N/A

US-CL-CURRENT: 725/93; 348/385.1, 348/426.1, 725/100, 725/116, 725/131, 725/32

## ABSTRACT:

Video receiving method and apparatus, are responsive to requests from a selector unit (240), for identifying channels (1 through n), in a transmitter system (204), containing video signals to be sent from the transmitter system (204) to one or more receiver systems (202). The receiving method includes steps of having the receiver system (202) select (94) one or more channels. The receiver system generates (90) signals indicative of the selected channels, and sends (29) the channel identifying signals to the transmitter system (204). The transmitter system uses the channel identifying signals to selectively identify the channels to be transmitted to the receiver system (202). The transmitter system compresses (17, 19, 21) and multiplexes (25) the signals of the channels selected by the receiver system (202). The receiver system (202) receives (75) the compressed and multiplexed signals, and stores (35, 37, 39) the received signals.

12 Claims, 54 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 45

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMOC	Draw Desc	Image
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☐ 40. Document ID: US 5463735 A

L1: Entry 40 of 50

File: USPT

Oct 31, 1995

US-PAT-NO: 5463735

DOCUMENT-IDENTIFIER: US 5463735 A

TITLE: Method of downloading information stored in an archiving device to destination network controller through intermediate network controllers in accordance with routing information

DATE-ISSUED: October 31, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A
Rasmussen; David E.	Wales	WI	N/A	N/A
Decious; Gaylon M.	Milwaukee	WI	N/A	N/A
Garbe; James R.	Greenfield	WI	N/A	N/A
Hyzer; Susan M.	Brown Deer	WI	N/A	N/A
Woest; Karen L.	Wauwatosa	WI	N/A	N/A
Vairavan; Vairavan	Milwaukee	WI	N/A	N/A
Koch; David L.	Fox Point	WI	N/A	N/A
Gottschalk, Jr.; Donald A.	Milwaukee	WI	N/A	N/A
Burkhardt; Dennis E.	Franklin	WI	N/A	N/A
Standish; Darrell E.	New Berlin	WI	N/A	N/A
Madaus; Paul W.	Oak Creek	WI	N/A	N/A
Spacek; Dan J.	Cudahy	WI	N/A	N/A
Nesler; Clay G.	New Berlin	WI	N/A	N/A
Stark; James K.	Wauwatosa	WI	N/A	N/A
Mageland; Otto M.	Greenfield	WI	N/A	N/A
Singers; Robert R.	Brown Deer	WI	N/A	N/A
Wagner; Michael E.	Delafield	WI	N/A	N/A

US-CL-CURRENT: 709/222; 370/351, 700/2, 709/237, 709/243, 710/104

## ABSTRACT:

A network system having a wide variety of applications and particularly applicable to facilities management systems includes network controllers which continuously process data related to building and industrial, environmental, security and other automated system controls. Each network controller has a network address indicative of a communication link to which the network controller is connected, a local address and a node drop ID to determine whether the network controller is a configured or non-configured device. Data stored in an archive device is downloaded to a destination network controller in the absence of a routing table in the destination network controller by transmitting a download request message from the archive device to an intermediate network controller with a routing table. The intermediate network controller assumes control of the download request by transmitting the message to the destination controller. The destination controller acknowledges receipt of the message by transmitting an acknowledge message back to the intermediate network controller, which passes the acknowledge message to the archive device in accordance with the routing information stored in the intermediate network controller. Thus, as certain network controllers are connected, disconnected or disabled during the operation of the network, the control of a process is not interrupted. Additionally, the network controllers are not configured to store large amounts of routing data because a path to a device can be established through other controllers with routing information.

7 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 41. Document ID: US 5444851 A

L1: Entry 41 of 50

File: USPT

Aug 22, 1995

US-PAT-NO: 5444851

DOCUMENT-IDENTIFIER: US 5444851 A

TITLE: Method of accessing configured nodes in a facilities management system with a non-configured device

DATE-ISSUED: August 22, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woest; Karen L.	Wauwatosa	WI	N/A	N/A

US-CL-CURRENT: 709/222; 709/208, 709/228, 709/242

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. A non-configured node is connected to a configured network at a location defined by a subnet and a local address. The location information and a drop identifier are used as a network address for the non-configured node to transmit and receive messages. Routing information stored in the configured nodes allows non-configured node to communicate with other network nodes.

20 Claims, 6 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 42. Document ID: US 5384697 A

L1: Entry 42 of 50

File: USPT

Jan 24, 1995

US-PAT-NO: 5384697  
DOCUMENT-IDENTIFIER: US 5384697 A

TITLE: Networked facilities management system with balanced differential analog control outputs

DATE-ISSUED: January 24, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI	N/A	N/A

US-CL-CURRENT: 700/10

ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. The sum of an analog input signal and a feedback signal is provided to a buffer circuit. A current sensing network connected to the output of the buffer forms a first control signal. An equal amplitude, oppositely polarized signal forms a second control signal. An external signal switches the feedback network to produce a voltage derived from a current output of the first control signal and a voltage output of the first control signal.

22 Claims, 86 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 43. Document ID: US 5325533 A

L1: Entry 43 of 50

File: USPT

Jun 28, 1994

US-PAT-NO: 5325533

DOCUMENT-IDENTIFIER: US 5325533 A

TITLE: Engineering system for modeling computer programs

DATE-ISSUED: June 28, 1994

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McInerney; Peter J.	Cupertino	CA	N/A	N/A
Bianchi; Curtis A.	Saratoga	CA	N/A	N/A

US-CL-CURRENT: 717/1

## ABSTRACT:

A human oriented object programming system provides an interactive and dynamic modeling system to assist in the incremental building of computer programs which facilitates the development of complex computer programs such as operating systems and large applications with graphic user interfaces (GUIs). A program is modeled as a collection of units called components. A component represents a single compilable language element such as a class or a function. The three major functionality are the database, the compiler and the build mechanism. The database stores the components and properties. The compiler, along with compiling the source code of a property, is responsible for calculating the dependencies associated with a component. The build mechanism uses properties of components along with the compiler generated dependencies to correctly and efficiently sequence the compilation of components during a build process.

46 Claims, 29 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 26

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RWC	Draw Desc	Image
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☐ 44. Document ID: US 5287537 A

L1: Entry 44 of 50

File: USPT

Feb 15, 1994

US-PAT-NO: 5287537

DOCUMENT-IDENTIFIER: US 5287537 A

TITLE: Distributed processing system having plural computers each using identical retaining information to identify another computer for executing a received command

DATE-ISSUED: February 15, 1994

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Newmark; Rona J.	Northboro	MA	N/A	N/A
Alicandro; Rosemarie	Millbury	MA	N/A	N/A
Bixby; Peter C.	Northboro	MA	N/A	N/A
Burn; Donald D.	Westboro	MA	N/A	N/A
Enberg; Eric H.	Westboro	MA	N/A	N/A
Marino; Paul K.	Hopkinton	MA	N/A	N/A
Woodbury; Paul W.	Hopkinton	MA	N/A	N/A

US-CL-CURRENT: 712/29

## ABSTRACT:

A distributed computer system having a plurality of digital computer systems interconnected by a bus. Each digital computer system runs one or more programs. When it receives a command directed to a system device or a program, it determines whether it can fulfill the command. If not, it determines which one of the other digital computer systems can fulfill the command based upon retaining information stored locally and forwards the command to the other digital computer system.

2 Claims, 162 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 122

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMIC	Draw Desc	Image
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☐ 45. Document ID: US 5247627 A

L1: Entry 45 of 50

File: USPT

Sep 21, 1993



US-PAT-NO: 5247627

DOCUMENT-IDENTIFIER: US 5247627 A

TITLE: Digital signal processor with conditional branch decision unit and storage of conditional branch decision results

DATE-ISSUED: September 21, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murakami; Tokumichi	Kanagawa	N/A	N/A	JPX
Kamizawa; Koh	Kanagawa	N/A	N/A	JPX
Kato; Yoshiaki	Kanagawa	N/A	N/A	JPX
Ohira; Hideo	Kanagawa	N/A	N/A	JPX
Kameyama; Masatoshi	Kanagawa	N/A	N/A	JPX
Kinjo; Naoto	Kanagawa	N/A	N/A	JPX

US-CL-CURRENT: 712/236

## ABSTRACT:

A digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage.

10 Claims, 59 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 48

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMID	Draw Desc	Image
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☐ 46. Document ID: US 5237667 A

L1: Entry 46 of 50

File: USPT

Aug 17, 1993

US-PAT-NO: 5237667

DOCUMENT-IDENTIFIER: US 5237667 A

TITLE: Digital signal processor system having host processor for writing instructions into internal processor memory

DATE-ISSUED: August 17, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murakami; Tokumichi	Kanagawa	N/A	N/A	JPX
Kamizawa; Koh	Kanagawa	N/A	N/A	JPX
Kato; Yoshiaki	Kanagawa	N/A	N/A	JPX
Ohira; Hideo	Kanagawa	N/A	N/A	JPX
Kameyama; Masatoshi	Kanagawa	N/A	N/A	JPX
Kinjo; Naoto	Kanagawa	N/A	N/A	JPX

US-CL-CURRENT: 712/248

## ABSTRACT:

A digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage.

4 Claims, 68 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 48

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMC	Draw Desc	Image
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☐ 47. Document ID: US 522241 A

L1: Entry 47 of 50

File: USPT

Jun 22, 1993

US-PAT-NO: 5222241

DOCUMENT-IDENTIFIER: US 5222241 A

TITLE: Digital signal processor having duplex working registers for switching to standby state during interrupt processing

DATE-ISSUED: June 22, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murakami; Tokumichi	Kanagawa	N/A	N/A	JPX
Kamizawa; Koh	Kanagawa	N/A	N/A	JPX
Kato; Yoshiaki	Kanagawa	N/A	N/A	JPX
Ohira; Hideo	Kanagawa	N/A	N/A	JPX
Kameyama; Masatoshi	Kanagawa	N/A	N/A	JPX
Kinjo; Naoto	Kanagawa	N/A	N/A	JPX

US-CL-CURRENT: 712/228; 712/244

## ABSTRACT:

A digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage.

3 Claims, 59 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 48

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RUMC	Draw Desc	Image
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☐ 48. Document ID: US 5216613 A

L1: Entry 48 of 50

File: USPT

Jun 1, 1993

US-PAT-NO: 5216613

DOCUMENT-IDENTIFIER: US 5216613 A

TITLE: Segmented asynchronous operation of an automated assembly line

DATE-ISSUED: June 1, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Head, III; Claude D.	Dallas	TX	N/A	N/A

US-CL-CURRENT: 700/102

## ABSTRACT:

An automated assembly line is controlled by a computer system. The assembly line is comprised of a plurality of machines which are each segmented into its basic unit operations providing work stations. The work stations are then controlled by the computer system and operated asynchronously with respect to the other work stations of the assembly line.

7 Claims, 102 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 65

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RIMC	Draw Desc	Image
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☐ 49. Document ID: US 5206940 A

L1: Entry 49 of 50

File: USPT

Apr 27, 1993

US-PAT-NO: 5206940

DOCUMENT-IDENTIFIER: US 5206940 A

TITLE: Address control and generating system for digital signal-processor

DATE-ISSUED: April 27, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murakami; Tokumichi	Kanagawa	N/A	N/A	JPX
Kamizawa; Koh	Kanagawa	N/A	N/A	JPX
Kato; Yoshiaki	Kanagawa	N/A	N/A	JPX
Ohira; Hideo	Kanagawa	N/A	N/A	JPX
Kameyama; Masatoshi	Kanagawa	N/A	N/A	JPX
Kinjo; Naoto	Kanagawa	N/A	N/A	JPX

US-CL-CURRENT: 711/218; 711/200

## ABSTRACT:

A digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage.

8 Claims, 68 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 48

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KOMC	Draw Desc	Image
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☐ 50. Document ID: US 5045993 A

L1: Entry 50 of 50

File: USPT

Sep 3, 1991

US-PAT-NO: 5045993

DOCUMENT-IDENTIFIER: US 5045993 A

TITLE: Digital signal processor

DATE-ISSUED: September 3, 1991

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murakami; Tokumichi	Kanagawa	N/A	N/A	JPX
Kamizawa; Koh	Kanagawa	N/A	N/A	JPX
Kato; Yoshiaki	Kanagawa	N/A	N/A	JPX
Ohira; Hideo	Kanagawa	N/A	N/A	JPX
Kameyama; Masatoshi	Kanagawa	N/A	N/A	JPX
Kinjo; Naoto	Kanagawa	N/A	N/A	JPX

US-CL-CURRENT: 712/236; 711/149, 712/241

## ABSTRACT:

A digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage.

13 Claims, 59 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 48

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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